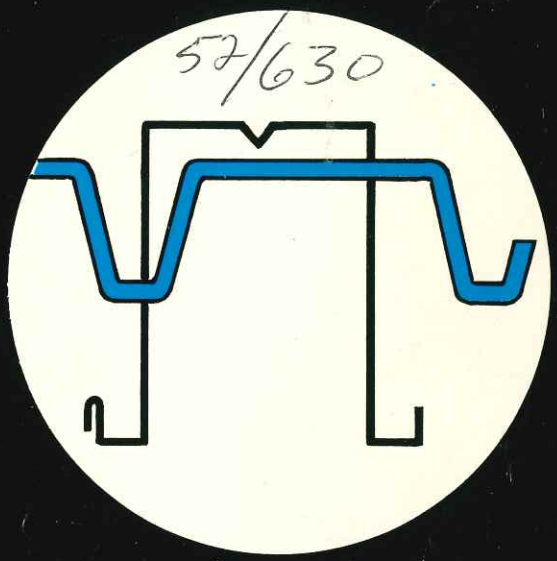
52/630

CATALOG 225
AIRTHERM MANUFACTURING COMPANY
ST. LOUIS, MO.

AIRTHERM
STEEL DECK SYSTEMS

57/630



FOR ROOFS

FOR FLOORS

57/630

RECEIVED
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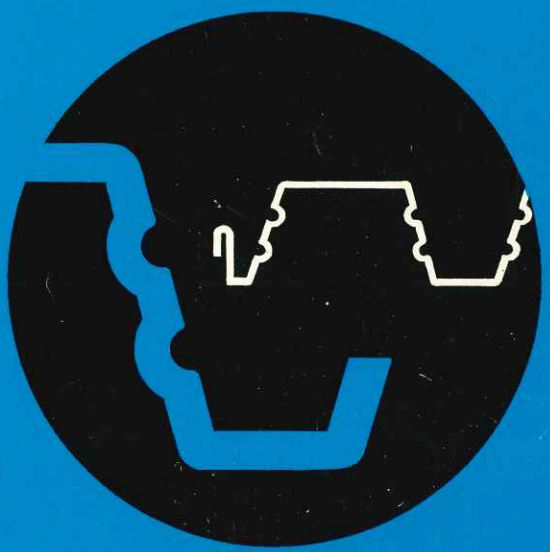
GROUP 350



STEEL DECK INSTITUTE sdi

UNIFORM FILE No. 5p

AIRTHERM DECK TYPES

BASIC

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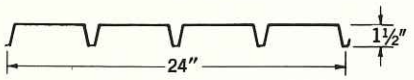
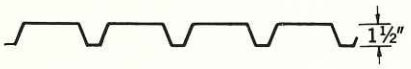
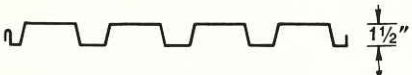
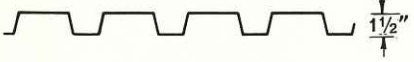
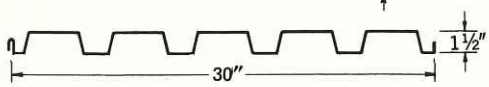
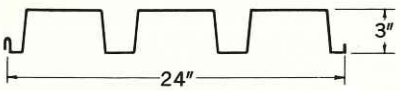
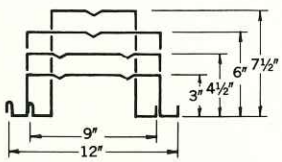
A		4
W		4
B		4
B2		4
B3		4
N		4
C-7½ C-6 C-4.5 C-3		5

CELLULAR

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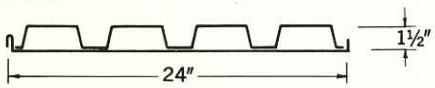
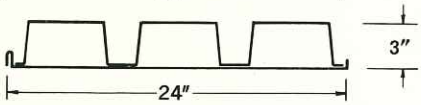
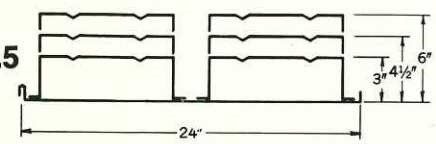
B2F		
NF		6-7
2CF-6 2CF-4.5 2CF-3		

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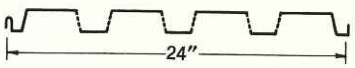
BA		7
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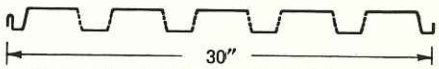
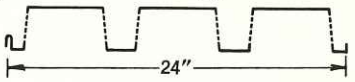
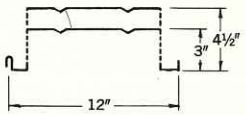
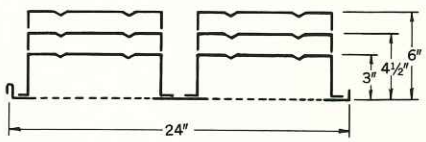
B3A		7
NA		7
CA-4.5 CA-3		7
2CFA-6 2CFA-4.5 2CFA-3		7

COMPOSITE

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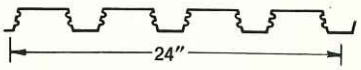
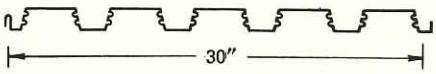
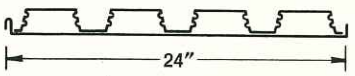
B2C		3
B3C		3
B2FC		3
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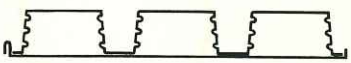
NFC		3

FORMDECK™

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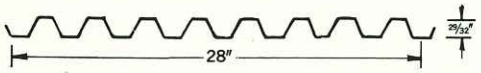
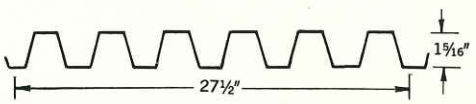
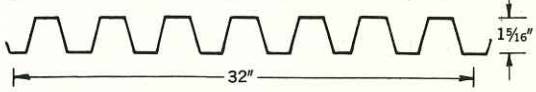
X		
T-26		
T-24		

Production Selection Chart Page 8 **Accessories Page 9** **Construction Details Page 10**

SHOP COATINGS

PAINTED — The shop coat of paint is applied through continuous roller coating over cleaned and phosphate treated cold rolled steel and baked prior to forming. This coating is for interior exposed applications and is intended to protect the steel for only a short period of exposure and to act as a primer for subsequent application of paint to be performed in the field by others.

GALVANIZED — This coating is continuous hot dipped zinc to either a full 1.25 oz. class G90 or light commercial class G60 suitable for weather exposures and severe construction conditions to protect against steel oxidation.

PAINTABLE GALVANIZED — This is a continuous hot dipped zinc coating with surface pre-treatment to provide proper bond of field paint to be applied by others.

DIMENSIONS, UNIT WEIGHTS AND STEEL GAGES GIVEN ARE SUBJECT TO NORMAL TOLERANCE.

Airtherm Manufacturing Company reserves the right to make changes in design or dimensions, to add or eliminate items without prior notice.

COMPOSITE TYPES

DESCRIPTION

The triple function of a concrete form, positive steel reinforcing and a permanent working platform, is provided through use of composite deck types. Strategically engineered deformations create a lock for reinforcing the concrete and the transfer of horizontal shear between the slab and the steel panel. Available in $1\frac{1}{2}''$ depths for shallow slabs and in $3''$ depths, both as open beam and cellular panels, to meet various span and/or electric raceway conditions.

PROPERTY VALUES

Property values and carrying capacities of composite deck sections for construction loads and wet fill needs are equal to criteria given for non-composite types of same design and metal gauge as covered on other pages of this catalog and may be used to determine shoring needs.

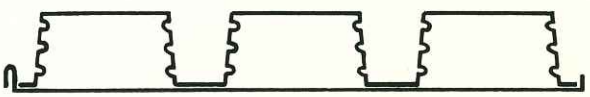
Composite slab loading has been developed by tests. A comprehensive manual with detailed data for all composite sections is available on request.

B2C
(24″ Cover Width)

B2FC
(24″ Cover Width)

B3C
(30″ Cover Width)

NC
(24″ Cover Width)



NFC
(24″ Cover Width)

CRITERIA FOR LOAD TABLES

TO FIND ALLOWABLE LOADS FOR ANY SPAN, divide the respective coefficients by clear span in feet — Squared for Bending — Cubed for Deflection

To Convert Single Span Coefficients in Tables Use Multipliers Below.

	L/180			L/240		L/360		
	1 Span	2 Span	3 Span	2 Span	3 Span	1 Span	2 Span	3 Span
BENDING	1.0	1.0	1.25	1.0	1.25	1.0	1.0	1.25
DEFLECTION	1.33	2.22	2.22	1.67	1.67	.67	1.11	1.11

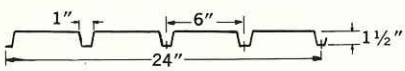
	ALL TYPES	ALL TYPES (EXCEPT FORMDECK)
SPAN	BENDING MOMENT	DEFLECTION (△)
1	$M = \frac{WL^2}{8}$	$\triangle = \frac{5WL^4}{384EI}$
2	$M = \frac{WL^2}{8}$	$\triangle = \frac{3WL^4}{384EI}$
3	$M = \frac{WL^2}{10}$	$\triangle = \frac{3WL^4}{384EI}$

Limiting Stress 20,000 psi. Except Formdeck 30,000 psi.

BASIC TYPES

TYPE A

Type "A" deck is available with a shop prime coat (PTD.), or a galvanized finish (GAL.).



	WGT./SQ. FT.		S	MI	1 SPAN COEFFICIENTS		
GA.	PTD.	GAL.	IN³	IN⁴	BENDING	1/240	1/360
22	1.67	1.74	.11	.12	1440	7801	5244
20	2.01	2.08	.13	.15	1760	9768	6556
18	2.61	2.68	.18	.21	2413	13898	9178

SINGLE SPAN LOADS							
5'-0"	5'-6"	6'-0"	6'-6"	6'-8"	7'-0"	7'-6"	8'-0"
47	39	32					
57	47	40	34	32			
77	64	54	46	44	40	34	30

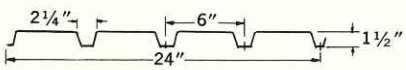
Property values are calculated on the cross-sectional design of type A deck. Span ratings developed from these values conform to or exceed the loads shown in the SDI table.

DESIGN CERTIFIED BY S.D.I.

STANDARD – SDI – LOAD TABLE
DESIGN STRESS = 20,000 psi, DEFLECTION: 1/240 SPAN
STANDARD SHEET LENGTH: 7'0" to 30'6"
STANDARD LENGTH TOLERANCE: ± ½"

TYPE W

Type "W" deck is available with a shop prime coat (PTD.), or a galvanized finish (GAL.).



	WGT./SQ. FT.		S	MI	1 SPAN COEFFICIENTS		
GA.	PTD.	GAL.	IN³	IN⁴	BENDING	1/240	1/360
22	1.67	1.74	.16	.16	2133	10489	6993
20	2.01	2.08	.20	.20	2667	13111	8741
18	2.61	2.68	.28	.29	3733	19011	12674

SINGLE SPAN LOADS								
5'-0"	5'-6"	6'-0"	6'-8"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"
85	71	59	45	41	35	30		
107	88	71	54	48	41	36	31	
149	123	98	74	65	55	47	41	36

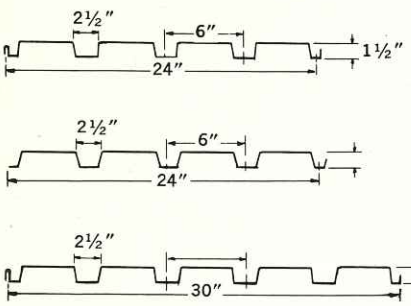
Property values are calculated on the cross-sectional design of type W deck.
TYPE "W" DECK REQUIRES 1" min. INSULATION.

DESIGN CERTIFIED BY S.D.I.

DESIGN STRESS = 20,000 psi, DEFLECTION: 1/240 SPAN
STANDARD SHEET LENGTH: 7'0" to 30'6"
STANDARD LENGTH TOLERANCE: ± ½"

TYPE B, B2, B3

Type "B" deck is available with shop prime coat (PTD.), or galvanized (GAL.) finish. Types B2 and B3 with galvanized finish only.



	WGT./SQ. FT.		S	MI	1 SPAN COEFFICIENTS		
GA.	PTD.	GAL.	IN³	IN⁴	BENDING	1/240	1/360
22	1.76	1.83	.20	.17	2660	11140	7430
20	2.13	2.20	.25	.22	3333	14420	9615
18	2.75	2.81	.35	.32	4660	21000	13985
16	NA	3.28	.47	.44	6264	28800	19230

SINGLE SPAN LOADS								
5'-0"	6'-0"	6'-8"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	10'-0"
94	58	45	41	35	30			
117	72	55	49	42	36	32		
163	99	75	66	55	47	41	36	
240	143	107	94	78	66	57	50	39

Property values are calculated on the cross-sectional design of deck shown. Span ratings developed from these values conform to or exceed the loads shown in the SDI table.

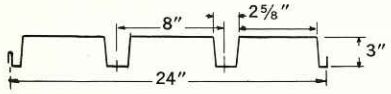
DESIGN CERTIFIED BY S.D.I.

STANDARD – SDI – LOAD TABLE.
DESIGN STRESS = 20,000 psi, DEFLECTION: 1/240 SPAN
STANDARD SHEET LENGTH: 7'0" to 30'6"
STANDARD LENGTH TOLERANCE: ± ½"
NOTE: Only type B3 is available in 16 Ga. Gal.

TYPE N

INSTALLED WITH

RIBS UP



Type "N" deck is available with galvanized finish only (G60 coating class).

	WGT.	S	MI	1 SPAN COEFFICIENTS			S.E.R.	CU.FT.
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360	3"BR'G.	VOID
22	2.10	.373	.632	4972	41444	27630	320	.0704
20	2.53	.482	.814	6428	53342	35562	525	.0704
18	3.32	.690	1.200	9193	78607	52405	1073	.0704
16	4.11	.886	1.613	11816	105734	70490	1866	.0704

SINGLE SPAN LOADS					
8'-0"	9'-0"	10'-0"	12'-0"	14'-0"	16'-0"
78	61	50	34		
100	79	63	41	29	
144	113	89	55	39	29
185	146	116	71	49	36

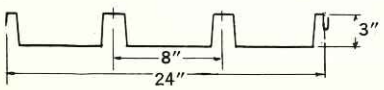
DESIGN STRESS = 20,000 psi, DEFLECTION: 1/240 SPAN
S.E.R. 3" BR'G. = Safe End Reaction with 3" Bearing.

STANDARD SHEET LENGTH: 7'0" to 32'0"
STANDARD LENGTH TOLERANCE: ± ¼"

TYPE N

INSTALLED WITH

RIBS DOWN



Type "N" deck is available with galvanized finish only (G60 coating class).

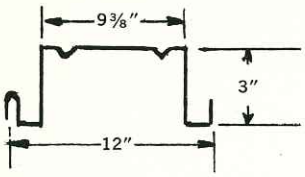
	WGT.	S	MI	1 SPAN COEFFICIENTS			S.E.R.	CU. FT.
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360	3" BR'G.	VOID
22	2.10	.454	.867	6056	56823	37882	320	.120
20	2.53	.558	1.042	7445	68276	45850	525	.120
18	3.32	.750	1.389	10005	91030	60687	1073	.120
16	4.11	.935	1.736	12466	113790	75860	1866	.120

SINGLE SPAN LOADS					
8'-0"	9'-0"	10'-0"	12'-0"	14'-0"	16'-0"
95	75	61	42	31	
116	92	74	50	35	27
156	124	100	63	43	32
195	154	124	76	51	38

DESIGN STRESS = 20,000 psi, DEFLECTION: 1/240 SPAN
S.E.R. 3" BR'G. = Safe End Reaction with 3" Bearing.

STANDARD SHEET LENGTH: 7'0" to 32'0"
STANDARD LENGTH TOLERANCE: ± ¼"

TYPE C-3



Type C-3 is available with galvanized finish (G-90 coating class).

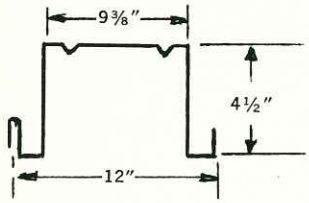
	WGT.	S	MI	1 SPAN COEFFICIENTS		
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360
22	2.06	.44	.79	5855	51800	34500
20	2.46	.53	.99	7066	65000	43300
18	3.23	.73	1.40	9730	91900	61100

DESIGN STRESS = 20,000 psi
DEFLECTION LIMIT = 1/240 SPAN

SINGLE SPAN LOADS						
8'-"0	10'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"
92	59	40	34	29		
110	71	48	40	32	29	
152	97	63	52	43	37	32

STANDARD SHEET LENGTH: 7'0" to 32'0"
STANDARD LENGTH TOLERANCE: ± ¼"

TYPE C-4.5



Type C-4.5 is available with galvanized finish (G-90 coating class).

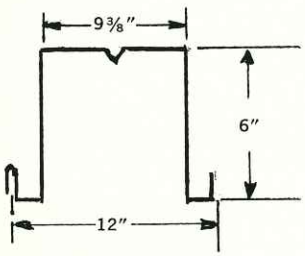
	WGT.	S	MI	1 SPAN COEFFICIENTS		
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360
20	2.84	.94	2.51	12520	164800	109800
18	3.72	1.29	3.58	17200	234500	156500
16	4.55	1.63	4.52	21700	296500	197500

DESIGN STRESS = 20,000 psi
DEFLECTION LIMIT = 1/240 SPAN

SINGLE SPAN LOADS						
12'-0"	13'-0"	14'-0"	15'-"0	16'-0"	18'-0"	20'-0"
87	74	64	56	49	38	31
119	102	88	77	67	50	39
131	129	111	97	82	61	47

STANDARD SHEET LENGTH: 7'0" to 32'0"
STANDARD LENGTH TOLERANCE: ± ¼"

TYPE C-6



Type C-6 is available with PAINT BOND galvanized finish (G-90 coating class)

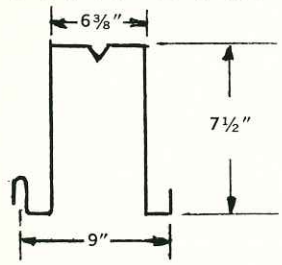
	WGT.	S	MI	1 SPAN COEFFICIENTS			S.E.R.
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360	3" BR'G.
18	4.23	1.95	6.66	25999	436596	291069	738
16	5.24	2.51	8.92	33466	584751	389840	1319

DEFLECTION COEFFICIENTS shown are for spans of less than 20'0".
STANDARD SHEET LENGTH: 7'0" to 25'0"
STANDARD LENGTH TOLERANCE: ± ¼"

SINGLE SPAN LOADS					
20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
65	56	49	42	38	34
84	73	62	54	48	42

Load figures include weight of deck plus 7psf for roofing and will not produce a stress greater than 20,000 psi or a deflection from live load of more than 1".

TYPE C-7.5



Type C-7.5 is available with PAINT BOND galvanized finish (G-90 coating class).

	WGT.	S	MI	1 SPAN COEFFICIENTS			S.E.R.
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360	3" BR'G.
18	5.63	3.16	13.41	42132	879093	586071	735
16	6.98	4.15	17.20	55332	1127546	751709	1512

DEFLECTION COEFFICIENTS shown are for spans of less than 20'0"
STANDARD SHEET LENGTH: 7'0" to 25'0".
STANDARD LENGTH TOLERANCE: ± ¼"

SINGLE SPAN LOADS					
20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
105	96	87	76	66	58
138	125	110	95	82	72

Load figures include weight of deck plus 7 psf for roofing and will not produce a stress greater than 20,000 psi or a deflection from live load of more than 1".

1. The carrying capacities per square foot of respective deck types in load tables are governed by:
   a Live load deflection not in excess of 1/240 X span. The dead load included is 10spf. These figures are shown in shaded brackets. Except for C-6 and C-7.5.
   b Flexural stress limits of 20,000psi for a 30,000psi minimum yield strength. These figures are shown in non-shaded brackets.
2. On page 3 a simple conversion formula is provided to determine allowable loads governed by specified deflection or stress (Bending) for any given span condition.
3. Property values are computed on a composite 12" wide section of the respective cross-sectional design shown.
4. Reference to STANDARD SDI TABLES means that respective deck types conform to the design criteria of SDI and have been certified to this extent by the Steel Deck Institute.
5. Line drawings included in this catalog are not to scale in regard to width versus height of configurations illustrated.
6. Airtherm Manufacturing Company reserves the right to make changes in design or dimensions, to add or eliminate items without prior notice.

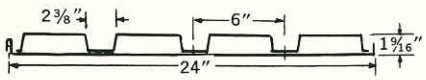
CELLULAR TYPES

Cellular Types are fabricated from galvanized steel. The Beam (formed part) is made of steel with a plain galvanized coating. The Flat Plate is made of steel with a Paint Bond Galvanized coating. The exposed surface of the Flat Plate can be field painted without any prior treatment.

The first (left) Gage Number represents the thickness of the Beam Section. The second (right) Gage Number represents the thickness of the Flat Plate. In tables related to "INVERTED" installation, the above procedure is reversed.

TYPE B2F

INSTALLED WITH
FLAT PLATE DOWN

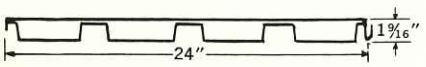


	WGT.	S	MI	1 SPAN COEFFICIENTS		
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360
22/18	3.72	.25	.34	3333	22250	14850
20/18	4.04	.32	.41	4255	26850	17920
18/18	4.64	.48	.57	6400	37300	24900
18/16	5.14	.49	.61	6530	39900	26597

SINGLE SPAN LOADS						
5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"
133	93	68	52	41		
171	118	87	64	48	38	
256	178	121	86	63	50	40
261	181	128	91	67	53	42

TYPE B2F

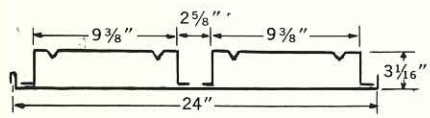
INSTALLED WITH
FLAT PLATE UP



	WGT.	S	MI	1 SPAN COEFFICIENTS		
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360
18/22	3.72	.37	.39	4930	25600	17050
18/20	4.04	.44	.44	5850	28800	19220
18/18	4.64	.57	.53	7595	34750	23200
16/18	5.14	.59	.61	7855	39900	26650

SINGLE SPAN LOADS						
5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"
197	130	86	61	46	37	
234	144	95	67	51	40	
270	173	113	80	60	47	38
314	200	128	91	67	53	42

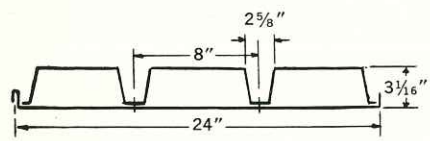
TYPE 2CF-3



	WGT.	S	MI	1 SPAN COEFFICIENTS			S.E. R.
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360	3" BR'G
20/18	4.12	.80	1.86	10666	121932	81289	850
20/16	4.62	.81	2.00	10800	131110	87408	850
18/18	4.75	1.31	2.52	17466	165190	110134	1288
18/16	5.25	1.33	2.73	17733	178965	119312	1288
16/18	5.37	1.71	2.99	22794	196009	130675	1850
16/16	5.87	1.75	3.27	23333	214365	142912	1850

SINGLE SPAN LOADS					
10'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
107	74	54	41	32	
108	75	55	42	33	
175	108	72	52	40	33
177	116	77	56	43	34
208	125	83	60	46	37
227	137	91	65	50	40

TYPE NF



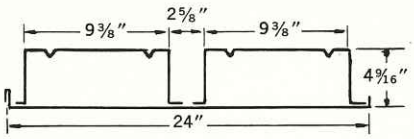
	WGT.	S	MI	1 SPAN COEFFICIENTS			S.E.R.
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360	3" BR'G.
22/18	4.08	.484	1.256	6445	82304	54892	320
22/16	4.58	.493	1.326	6563	86873	57952	320
20/18	4.48	.616	1.540	8202	100902	67304	525
20/16	4.98	.627	1.632	8354	106979	71325	525
18/18	5.20	.909	2.110	12112	138301	92215	1073
18/16	5.72	.926	2.253	12342	147636	98465	1073
16/18	5.96	1.236	2.673	16470	175215	116821	1866
16/16	6.46	1.260	2.866	16796	187874	125256	1866

SINGLE SPAN LOADS					
10'-0"	12'-0"	14'-0'	16'-0"	18'-0"	20'-0"
64	45	33	25		
66	46	33	26		
82	57	42	32		
84	58	43	33		
121	84	62	46	36	
123	86	63	48	38	
165	114	77	56	43	35
168	117	81	59	45	36

General notes relating to Cellular Types:

1. Design Stress = 20,000 psi Deflection Limits = 1/240 of span
2. Standard Sheet Length — Types — B2F, 2CF-3, 2CF-4.5 and NF: 7'0" to 32'0".
   Type — 2CF-6: 7'0" to 25'0".
3. Standard Length Tolerance: ± ⅛".

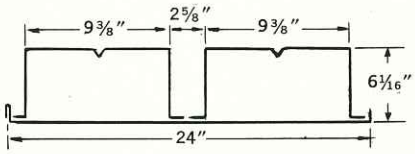
TYPE 2CF-4.5



	WGT.	S	MI	1 SPAN COEFFICIENTS			S.E.R.
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360	3" BR'G.
20/18	4.52	1.33	4.46	17733	292375	194920	652
20/16	5.02	1.35	4.78	18000	313353	208905	652
18/18	5.26	2.12	5.96	28266	390708	260476	1090
18/16	5.76	2.16	6.46	28799	423485	282328	1090
16/18	6.00	2.77	7.09	36932	464785	309861	1654
16/16	6.50	2.82	7.73	37599	506740	337832	1654

SINGLE SPAN LOADS					
14'-0"	16'-0"	18'-0"	20'-0"	22'-0"	24'-0"
90	69	55	44	37	31
92	70	56	45	37	31
144	107	79	61	49	40
147	112	86	66	53	44
182	126	93	71	57	47
192	138	101	77	62	51

TYPE 2CF-6



	WGT.	S	MI	1 SPAN COEFFICIENTS			S.E.R.
GA.	SQ. FT.	IN³	IN⁴	BENDING	1/240	1/360	3" BR'G.
18/18	5.83	3.06	10.99	40835	720460	480307	738
18/16	6.33	3.13	12.17	41674	797817	531878	738
16/18	6.66	3.96	13.33	52775	873861	582574	1319
16/16	7.16	4.05	14.50	53951	950562	633708	1319
14/18	7.57	4.99	15.49	66537	1015462	676975	2168
14/16	8.07	5.11	16.85	68114	1104619	736412	2168

SINGLE SPAN LOADS					
20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"
102	87	75	64	56	50
104	94	81	70	61	54
123	104	89	76	67	59
133	112	95	82	71	63
138	119	102	88	76	67
150	129	109	94	82	72

ACOUSTIC TYPES

All acoustic deck items illustrated here are fabricated from plain galvanized or paintable galvanized steel in all gages noted for non-perforated types, except "CA-3" and "CA-4.5" which are available in 18 gage only.

To determine carrying capacities of acoustic types, refer to property values and load tables of respective non-perforated deck products and reduce their load values by 10%.

Standard perforation pattern: 5/32" diameter holes, staggered at 3/8" centers.

The glass fiber, sound absorbing element is furnished with all acoustic deck items for field installation by the roofing contractor.

Published NRC (Noise Reduction Coefficient) values noted are the result of tests conducted at Riverbank Acoustical Laboratories of Armour Institute. Copies of complete test reports are available on request.

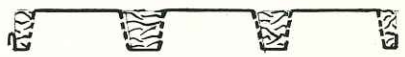
A Blend System with alternate rows of acoustic and non-perforated, matching deck types reduces the overall acoustic value of the installation by 50%.

BA **NRC .85**

B2A **NRC .90**

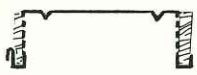
B3A **NRC .85**

NA **NRC .85**



CA-3 **NRC .50**

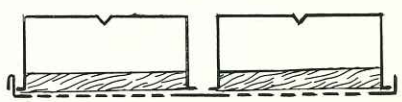
CA-4.5 **NRC .60**



2CFA-3 **NRC .75**

2CFA-4.5 **NRC .85**

2CFA-6 **NRC .95**



SELECTION CHART

The table below provides a convenient, fast method for the selection of the correct deck section and steel thickness which meets specified criteria of a given construction project.

PROPERTY VALUES required for uniform Loads over single spans

DESIGN STRESS = 20,000 psi

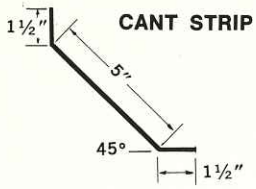
LOADS IN POUNDS PER SQUARE FOOT

Span	Criteria	20	30	40	50	60	70	80	90	100	110	120	130	140	150
2′-0″	S	.0060	.0090	.0120	.0150	.0180	.0210	.0240	.0270	.0300	.0330	.0360	.0390	.0420	.0450
	I_{240}	.0024	.0036	.0048	.0060	.0072	.0084	.0096	.0108	.0120	.0132	.0144	.0156	.0168	.0180
	I_{360}	.0036	.0054	.0072	.0090	.0108	.0126	.0144	.0162	.0180	.0198	.0216	.0234	.0252	.0270
4′-0″	S	.0240	.0360	.0480	.0600	.0720	.0840	.0860	.1080	.1200	.1320	.1440	.1560	.1680	.1800
	I_{240}	.0192	.0288	.0384	.0480	.0576	.0672	.0768	.0864	.0960	.1056	.1152	.1248	.1344	.1440
	I_{360}	.0294	.0441	.0588	.0735	.0882	.1029	.1176	.1323	.1470	.1617	.1764	.1911	.2058	.2205
5′-0″	S	.04	.06	.08	.10	.11	.13	.15	.17	.19	.21	.23	.25	.27	.29
	I_{240}	.04	.06	.08	.10	.11	.13	.15	.17	.19	.21	.23	.25	.27	.29
	I_{360}	.06	.09	.11	.14	.17	.20	.23	.26	.29	.31	.34	.37	.40	.43
6′-0″	S	.05	.08	.11	.14	.16	.19	.22	.24	.27	.30	.32	.35	.38	.41
	I_{240}	.07	.10	.13	.16	.20	.23	.26	.30	.33	.36	.40	.43	.46	.49
	I_{360}	.10	.15	.20	.25	.30	.35	.40	.44	.49	.54	.59	.64	.69	.74
7′-0″	S	.07	.11	.15	.19	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
	I_{240}	.10	.16	.21	.26	.31	.37	.42	.47	.52	.58	.63	.68	.73	.78
	I_{360}	.16	.24	.31	.39	.47	.55	.63	.71	.78	.86	.94	1.02	1.10	1.18
8′-0″	S	.10	.14	.19	.24	.29	.34	.38	.43	.48	.53	.58	.62	.67	.72
	I_{240}	.16	.23	.31	.39	.47	.55	.62	.70	.78	.86	.94	1.02	1.09	1.17
	I_{360}	.23	.35	.47	.59	.70	.82	.94	1.05	1.17	1.29	1.41	1.52	1.64	1.76
9′-0″	S	.12	.18	.24	.31	.37	.43	.49	.55	.61	.67	.73	.79	.85	.92
	I_{240}	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.45	1.56	1.67
	I_{360}	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.34	2.50
10′-0″	S	.15	.23	.30	.38	.45	.53	.60	.68	.75	.83	.90	.98	1.05	1.13
	I_{240}	.31	.46	.61	.76	.92	1.07	1.22	1.37	1.53	1.68	1.83	1.98	2.14	2.29
	I_{360}	.46	.69	.92	1.14	1.37	1.60	1.83	2.06	2.29	2.52	2.75	2.97	3.20	3.43
12′-0″	S	.22	.32	.43	.54	.65	.76	.86	.97	1.08	1.19	1.30	1.40	1.51	1.62
	I_{240}	.53	.79	1.05	1.32	1.58	1.85	2.11	2.37	2.64	2.90	3.16	3.43	3.69	3.95
	I_{360}	.79	1.19	1.58	1.98	2.37	2.77	3.16	3.56	3.95	4.35	4.74	5.14	5.54	5.93
14′-0″	S	.29	.44	.59	.74	.88	1.03	1.18	1.32	1.47	1.62	1.76	1.91	2.06	2.21
	I_{240}	.84	1.26	1.67	2.09	2.51	2.93	3.35	3.77	4.19	4.60	5.02	5.44	5.86	6.28
	I_{360}	1.26	1.88	2.51	3.14	3.77	4.39	5.02	5.65	6.28	6.91	7.53	8.16	8.79	9.42
15′-0″	S	.34	.51	.68	.85	1.01	1.18	1.35	1.52	1.69	1.86	2.03	2.20	2.37	2.54
	I_{240}	1.03	1.54	2.06	2.57	3.09	3.60	4.12	4.63	5.15	5.66	6.18	6.69	7.21	7.72
	I_{360}	1.54	2.32	3.09	3.86	4.63	5.41	6.18	6.95	7.72	8.49	9.27	10.04	10.81	11.58
16′-0″	S	.38	.58	.77	.96	1.15	1.34	1.54	1.73	1.92	2.11	2.30	2.50	2.69	2.88
	I_{240}	1.25	1.87	2.50	3.12	3.75	4.37	5.00	5.62	6.25	6.87	7.50	8.12	8.75	9.37
	I_{360}	1.87	2.81	3.75	4.69	5.62	6.56	7.50	8.43	9.37	10.31	11.25	12.18	13.12	14.06
17′-0″	S	.43	.65	.87	1.09	1.30	1.52	1.74	1.95	2.17	2.39	2.60	2.82	3.04	3.26
	I_{240}	1.50	2.25	3.00	3.75	4.50	5.25	6.00	6.74	7.49	8.24	8.99	9.74	10.49	11.24
	I_{360}	2.25	3.37	4.50	5.62	6.74	7.87	8.99	10,12	11.24	12.37	13.49	14.61	15.74	16.86
18′-0″	S	.49	.73	.97	1.22	1.46	1.70	1.94	2.19	2.43	2.67	2.92	3.16	3.40	3.65
	I_{240}	1.78	2.67	3.56	4.45	5.34	6.23	7.12	8.01	8.90	9.79	10.67	11.56	12.45	13.34
	I_{360}	2.67	4.00	5.34	6.67	8.01	9.34	10.67	12.01	13.34	14.68	16.01	17.35	18.68	20.02
19′-0″	S	.54	.81	1.08	1.36	1.63	1.90	2.17	2.44	2.71	2.98	3.25	3.52	3.79	4.07
	I_{240}	2.09	3.14	4.18	5.23	6.27	7.32	8.37	9.42	10.46	11.51	12.55	13.60	14.65	15.69
	I_{360}	3.14	4.71	6.28	7.85	9.42	10.99	12.55	14.12	15.69	17.26	18.83	20.40	21.97	23.54
20′-0″	S	.60	.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.30	3.60	3.90	4.20	4.50
	I_{240}	2.44	3.66	4.88	6.10	7.32	8.54	9.76	10.98	12.20	13.42	14.64	15.86	17.08	18.30
	I_{360}	3.66	5.49	7.32	9.15	10.98	12.81	14.64	16.47	18.30	20.13	21.96	23.80	25.63	27.46
21′-0″	S	.66	.99	1.32	1.66	1.97	2.32	2.65	2.98	3.31					
	I L/360	4.24	6.36	8.48	10.60	12.71	14.83	16.95	19.07	21.19					
	I L/240	2.83	4.24	5.65	7.06	8.48	9.89	11.30	12.72	14.13					
22′-0″	S	.73	1.09	1.45	1.82	2.18	2.54	2.90	3.27	3.63					
	I L/360	4.87	7.31	9.74	12.18	14.62	17.05	19.49	21.92	24.36					
	I L/240	3.25	4.86	6.50	8.12	9.75	11.38	13.00	14.63	16.25					
23′-0″	S	.79	1.19	1.59	1.98	2.38	2.78	3.18	3.57	3.97					
	I L/360	5.57	8.35	11.14	13.92	16.70	19.49	22.27	25.06	27.84					
	I L/240	3.71	5.57	7.43	9.28	11.14	13.00	14.86	16.71	18.58					
24′-0″	S	.86	1.30	1.73	2.16	2.59	3.02	3.46	3.89	4.32					
	I L/360	6.33	9.49	12.65	15.81	18.98	22.14	25.30	28.47	31.63					
	I L/240	4.22	6.33	8.44	10.55	12.66	14.77	16.88	18.99	21.10					
25′-0″	S	.94	1.41	1.88	2.35	2.81	3.28	3.75	4.22	4.69					
	I L/360	7.15	10.72	14.30	17.86	21.45	25.02	28.60	32.18	35.75					
	I L/240	4.77	7.15	9.54	11.92	14.30	16.70	19.07	21.46	23.84					
26′-0″	S	1.01	1.52	2.03	2.54	3.04	3.55	4.06	4.56	5.07					
	I L/360	8.04	12.06	16.08	20.10	24.13	28.15	32.17	36.19	40.21					
	I L/240	5.36	8.05	10.73	13.41	16.09	18.77	21.46	24.14	26.82					
27′-0″	S	1.09	1.64	2.19	2.74	3.29	3.83	4.38	4.92	5.47					
	I L/360	9.01	13.51	18.01	22.52	27.02	31.52	36.02	40.53	45.03					
	I L/240	6.01	9.01	12.02	15.02	18.02	21.03	24.03	27.04	30.04					
28′-0″	S	1.18	1.76	2.35	2.94	3.53	4.12	4.70	5.29	5.88					
	I /L360	10.05	15.07	20.09	25.12	30.14	35.16	40.18	45.21	50.23					
	I L/240	6.70	10.05	13.40	16.75	20.10	23.45	26.80	30.15	33.50					
29′-0″	S	1.26	1.89	2.52	3.16	3.79	4.42	5.05	5.68	6.31					
	I L/360	11.16	16.74	22.32	27.90	33.48	39.06	44.64	50.22	55.80					
	I L/240	7.44	11.17	14.89	18.61	22.33	26.05	29.78	33.50	37.22					
30′-0″	S	1.35	2.02	2.70	3.38	4.05	4.72	5.40	6.08	6.75					
	I L/360	12.36	18.53	24.71	30.89	37.07	43.25	49.42	55.60	61.78					
	I L/240	8.24	12.36	16.48	20.60	24.72	28.84	32.96	37.08	41.20					

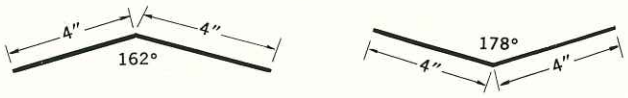
For applications exceeding 20′ spans requiring a 1″ deflection limit, please refer details to Airtherm Engineering Department for specific evaluation and recommendations.

ACCESSORIES

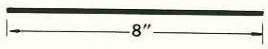
CANT STRIP

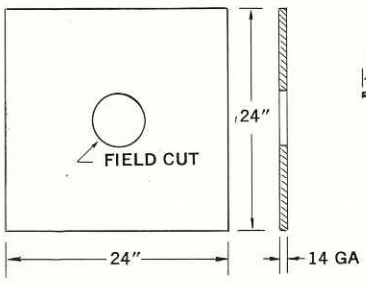


RIDGE AND VALLEY PLATE

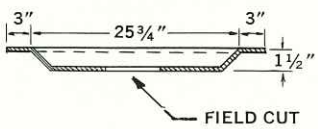


FLAT COVER PLATE

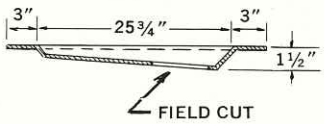




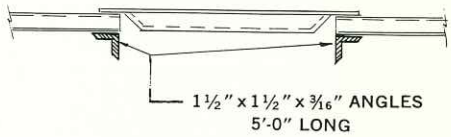
FLAT - RECESSED

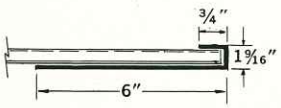


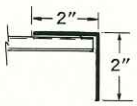
SLOPED - RECESSED



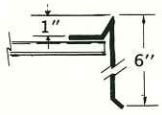
SUMP PLATE & PANS





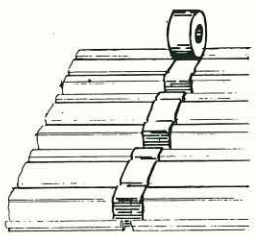


EDGE CLOSURES



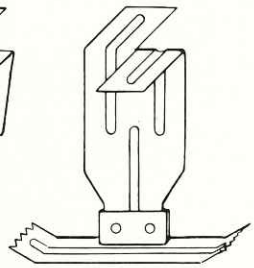
GRAVEL STOP

BUTT JOINT TAPE



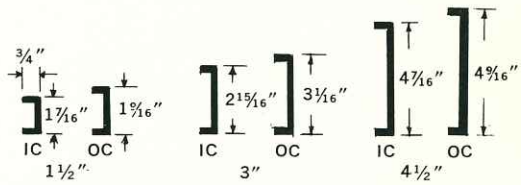
NON-PIERCING INSULATION CLIPS

No. 625

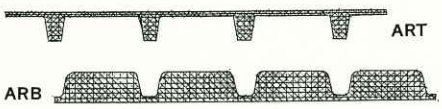


No. 150
No. 725
No. 755

DECK TYPE	INSUL'TN THICKNESS	INSULATION CLIP
A	1"	No. 625-1
B	1"	No. 150-1
B	1½"	No. No. 150-1.5
C-3	1"	No. 725-1
C-3	1½"	No. 725-1.5
C-4.5	1"	No. 755-1
C-4.5	1½"	No. 755-1.5



INSIDE (IC) and OUTSIDE (OC) CHANNELS
Used with deck sheets of same height, either to support the trimmed edge of a sheet or as closure at roof openings and roof edges.

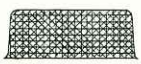


RUBBER VOID CLOSURES

WRB/BRB

WRT/BRT

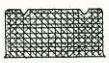
BRL



NRB

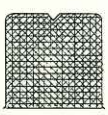
NRT

NRL

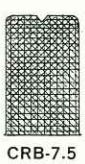


CRB-3
CRB-4.5

CRT/CRL-3
CRT/CRL-4.5

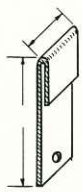


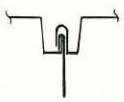
CRB-6



CRB-7.5

DECK TYPE	LARGE RIB VOID	TOP VOID	LAP VOID
A	ARB	ART	
W	WRB	WRT	WRT
B	BRB	BRT	BRL
N	NRB	NRT	NRL
C-3	CRB-3	CRL-3	CRL-3
C-4.5	CRB-4.5	CRL-4.5	CRL-4.5
C-6	CRB-6		
C-7.5	CRB-7.5		





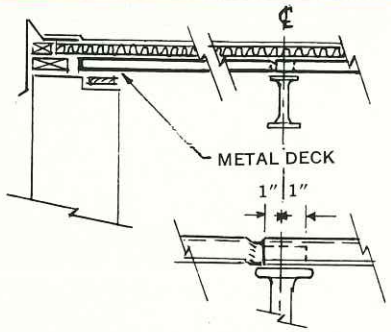
HANGER TABS
Hanger tabs can be used with all deck configurations which feature a standing side lap joint. The Hanger Tab can be permanently anchored at the desired location by button punching the side lap joint on each end of the Hanger Tab. Made from No. 18 Ga. Steel.

TOUCH-UP PAINT
Available in 1 gal. containers.
Approximate requirement — 1 gallon per 200 square feet.

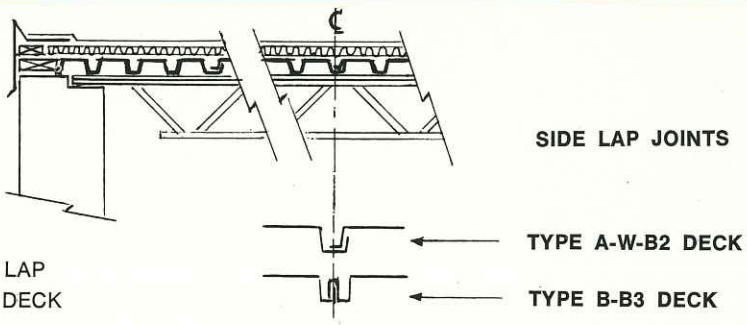
Airtherm Manufacturing Company reserves the right to make changes in design or dimensions, to add or eliminate items without prior notice.

CONSTRUCTION DETAILS

The illustrations of various details are intended to indicate the inherent flexibility of steel deck construction. The complete product line ranging from 1½" deep to 7½" deep of plain beam, composite, cellular or acoustic panels, fabricated from 22 gage thru 16 gage steel, together with complimentary accessory items, provides for virtually unlimited design.



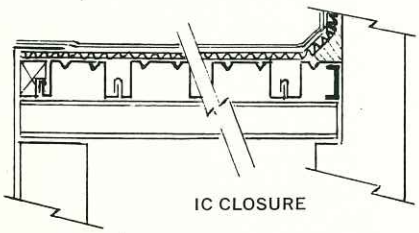
TYP. 2" END LAP
TYPE A-W-B DECK

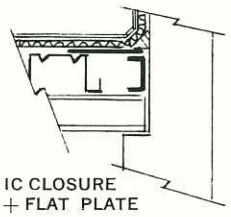


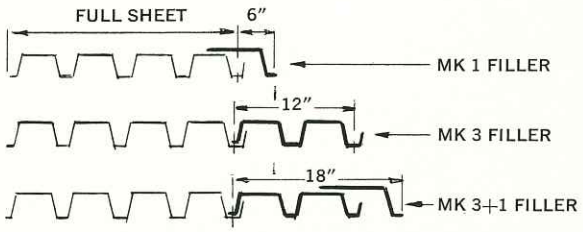
SIDE LAP JOINTS

TYPE A-W-B2 DECK

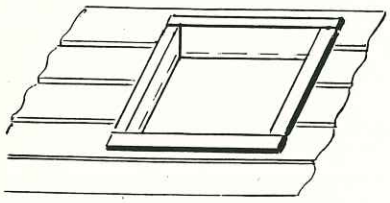
TYPE B-B3 DECK



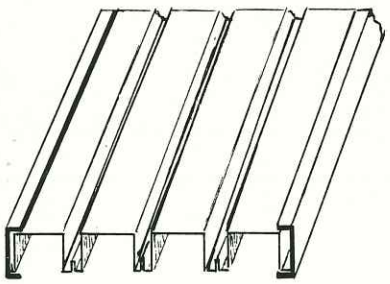




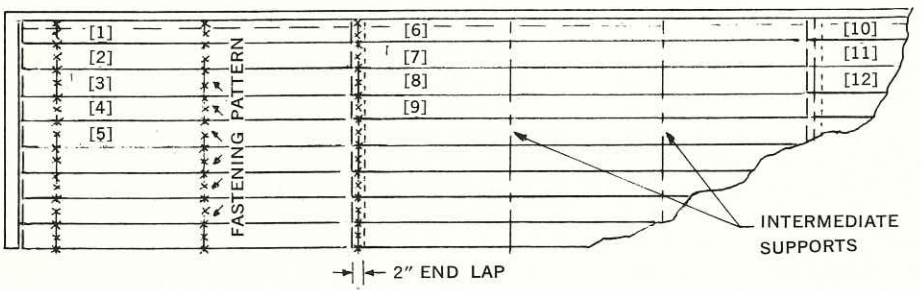
Method for closing odd edge spaces: IC channel closures are used with Type B-C-N and Cellular Deck. Mark 1 and 3 Filler Sheets are used with Type A and W Deck. The Mark 1 Filler Sheet can also be used with Type B Deck.



OC CHANNEL CLOSURE FOR
FRAMING OF OPENING.

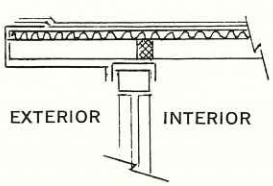


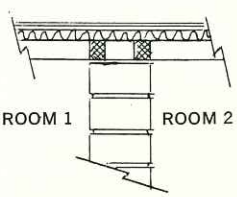
Roof and floor openings, or the exposed edges of deck sheets can be framed and reinforced with OC Channel Closures or Angle Closures which are available in equal depths of respective deck profiles.



Recommended Erection:
Unless otherwise specified, deck sheets shall be anchored to structural supports by (arc welding) (sheet metal screws) at 12" centers max. Side laps shall be fastened as specified. Lay sheets in sequence shown. Check alignment frequently.

Weather and Sound Barrier:
Rubber void closures provide an effective seal where the deck extends to the outside, and against sound transfer where deck crosses partition walls.

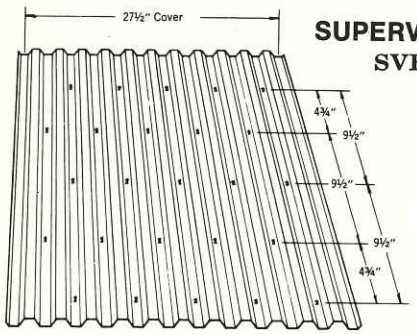




TYPE R AND TYPE SVR

(SUPERVENT TM Patent No. 3,458,168)

PERFORATED VENT PATTERN



GA.	WGT. SQ. FT.	S IN³	MI IN⁴	PITCH	DEPTH	COVER WIDTH
28	.88	.036	.010	2⅜"	9/16"	27½"

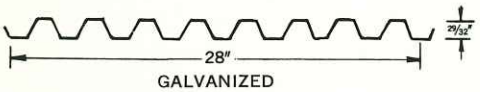
PSF Ratings/Span are based on 3 span condition.	Loads-PSF		DEFLECTION	
	Span	STRESS	1/240	1/180
	1'-6"	400	366	487
	1'-8"	323	265	353
	2'-0"	225	154	205
	2'-6"	144	79	105
	3'-0"	100	46	61
	3'-6"	73	28	37
	4'-0"	56	19	25
	4'-6"	44	13	17
	5'-0"	36		13

NOTE: Type "R" Formdeck is available with the "Supervent" feature for faster release of mix water from poured, insulating roof fills. If the sheets are to be furnished with the Perforated Vent Pattern specify Type "SVR".

Tensile Strength of steel used in fabrication of "R" & "SVR" = 95,000 psi.

SHEET LENGTH: 7'-0" TO 30'-3"
LENGTH TOLERANCE: ± ½"
DESIGN STRESS = 30,000 PSI

TYPE X



Design Stress = 30,000 Psi. Sheet Length: 7'-0" to 20'-3". Length Tolerance: ± ½".

GA.	WGT. SQ. FT.	S IN³	MI IN⁴	PITCH	DEPTH	COVER WIDTH
26	1.10	.074	.033	3½"	29/32"	28"

PSF Ratings/Span are based on 3 span condition.	Loads-PSF		DEFLECTION	
	Span	STRESS	1/240	1/180
	3'-0"	206	151	201
	3'-6"	151	95	126
	4'-0"	116	64	85
	4'-6"	91	45	60
	5'-0"	74	33	44
	5'-6"	61	24	32
	6'-0"	51	19	25
	6'-6"	44	15	20
	6'-8"	42	14	19

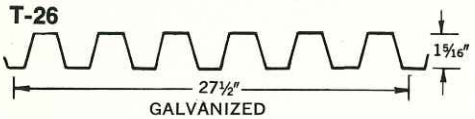
NOTE: Types "X" "T-26", and "T-24" are press-brake formed to respective cross-sections shown. None of these three Formdeck types are furnished with lap vents or the full vent pattern available on type "R" and "SVR". The standard Weld Washer placed in side laps at mid span serves as a venting device.

Tensile Strength of "X" and "T-26" = 85,000 psi

Tensile Strength of "T-24" = 80,000 psi

TYPE T-26 AND TYPE T-24

T-26



T-24

Design Stress = 30,000 Psi. Sheet Length: 7'-0" to 20'-3". Length Tolerance: ± ½".

TYPE T-26

GA.	WGT. SQ. FT.	S IN³	MI IN⁴	PITCH	DEPTH	COVER WIDTH
26	1.12	.093	.066	4 9/16"	1 5/16"	27½"

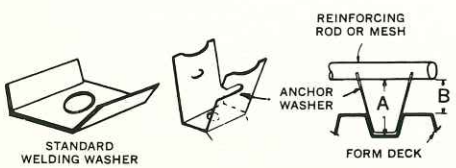
PSF Ratings/Span are based on 3 span condition.	Loads-PSF		DEFLECTION	
	Span	STRESS	1/240	1/180
	3'-0"	258	258	258
	3'-6"	190	190	190
	4'-0"	145	127	145
	4'-6"	115	89	115
	5'-0"	93	65	86
	5'-6"	77	49	65
	6'-0"	65	38	51
	6'-6"	55	30	40
	6'-8"	52	27	36

TYPE T-24

GA.	WGT. SQ. FT.	S IN³	MI IN⁴	COVER WIDTH
24	1.39	.136	.089	32"

Loads-PSF		DEFLECTION	
Span	STRESS	1/240	1/180
3'-0"	378	378	378
3'-6"	278	256	278
4'-0"	213	172	213
4'-6"	168	121	161
5'-0"	136	88	117
5'-6"	112	66	88
6'-0"	94	51	68
6'-6"	80	40	53
6'-8"	76	37	49

FORMDECK ACCESSORIES



Anchor Washers Dimensions				
	A	B		
		R	X	T
AW1	1½"	15/16"	19/32"	3/16"
AW2	2¼"	1 11/16"	1 11/32"	15/16"
AW3	3¼"	2 11/16"	2 11/32"	1 15/16"

CAUTION: Do not use Calcium Chloride or any admix of chloride salts in fills over galvanized.

AIRTHERM MANUFACTURING COMPANY

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Telephone, (314) 664-6666

FACTORY OFFICES

Main Plant and General Offices:
St. Louis, Missouri

District Sales Offices:	TELEPHONE:
Kansas City, Missouri	816/761-0886
Dallas-Ft. Worth, Texas	817/924-6142
Minneapolis-St. Paul, Minnesota	612/831-4652

WARRANTY

AIRTHERM Products are guaranteed against defects in material or workmanship to the extent that any product returned, transportation charges prepaid, to the factory and found defective within one year from date of shipment, will be repaired or replaced f.o.b. factory. Under no conditions shall the company be held liable for consequential damages or reinstallation or repair costs. Products of other manufacturers, assembled with or accessory to these products, are subject to warranty of their manufacturers.

YOUR FIELD REPRESENTATIVE:

RECEIVED
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GROUP 350

INSTALLATION

The most common method of attaching steel deck and floor panels is by means of arc welding. An alternate method is mechanical fastening. In either case, certain end results must be accomplished. These are: Wind uplift resistance, continuous beam action, shear resistance, and lateral bracing. All of these factors depend on sound installation practice and dependable workmanship. Test programs conducted by industry members, the Steel Deck Institute, Cornell University, Virginia Polytechnic Institute, etc. provide these data on welded installation: When lighter than 22 gauge steel is to be welded to purlins, a welding washer should be used — On configurations with rib openings of less than $\frac{3}{4}''$ fillet welds at the outside of ribs, rather than plugs through the web of a rib should be made — Welding rods of 3/32″ to $\frac{1}{4}''$ diameter, and heat settings of 120 to 180 Amps depending on metal thickness, produce satisfactory results.

TESTING DATA

To provide physical proof of theoretical calculations, and to satisfy certain specification or code requirements, Airtherm participates in test programs of the Steel Deck Institute, and contracts with Pittsburgh Testing Laboratories, St. Louis Testing Laboratories, Factory Mutual Testing Laboratories, and Underwriters' Laboratories, Incorporated, to conduct specific product and application tests.

Continued testing is done on tensile and yield strength of steel used in fabrication of deck products, as well as quality testing of prime coated finish. Fire ratings of from 2 to 5 hours are applicable to certain deck products and roof assemblies.

Airtherm deck types approved by Underwriters' Laboratories for "fire resistant" floor construction are listed under UL Guide CHWX; Deck Types approved for "electric raceway" floor systems are listed under UL Guide (360-A3) RHZX.

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